

Resource Management Project Plan Outline

- Title:** What is the title of the project?
Botanical Inventory Mojave National Preserve and Manzanar National Historic Site
- Team:** Who is the project lead and who are project participants?
Lead: Jim Andre. Participants: Glenn Clifton, Frank Smith, Valerie Soza, Jason Sexton
- What academic degrees or specialized training have they received?
Jim Andre and Jason Sexton have MA degree in plant ecology. Group has over 50 combined years of expertise in Mojave Desert floristics.
- Background:**
- Purpose:** What is the purpose of the project?
To complete baseline inventories of vascular plants at MANZ and MOJA
- Objectives:** What are the project objectives? Include a brief (no more than a few sentences) description of the data set.
- 1. "To document through existing, verifiable data and targeted field investigations the occurrence of at least 90 percent of the species of vascular plants currently estimated to occur in the park.***
 - 2. To describe the distribution and relative abundance of species of special concern, such as Threatened and Endangered species, exotics, and other species of special management interest occurring within park boundaries.***
 - 3. To provide baseline information needed to develop a general monitoring strategy and design that can be implemented by parks once inventories have been completed, tailored to specific park threats and resource issues" (NPS 1999).***
- Audience:** Who is the principal audience for the project?
National Park Service managers and scientists, other academic organizations, interested public
- Related Work:** List any related data sets or reports that could be documented for cross-reference.
- Approach:**
- Collection:** Will the data be developed primarily through:
Data will be obtained through field surveys, and surveys of herbariums and other voucher records. Existing data sources include voucher

information obtained from the Rancho Santa Botanical Garden, Sweeney Granite Mountains Desert Research Center, UC Riverside Herbarium, Jepson Herbarium, CSU Desert Studies Center.

Design: Where will the data be collected? *From the Mojave National Preserve and Manzanar Historic Site.*

Timeline: What is the anticipated time period in which the data will be collected? *February 2003 – August of 2004.*

Methods: Briefly summarize your field and laboratory methods.

Inventory of Vascular Plants at Mojave National Preserve

At MOJA, 831 of 1052 (79%) potentially occurring vascular plant species have been verified. The primary objective of vascular plant inventories is to document at least 90% of the species present in parks. Because MOJA has a significant number of species vouchered, we will need to perform area searches of particular locations there that have a high potential for adding to the park species list or are of concern to management. We feel this is the best approach for documenting species presence and increasing the probability of adding to the MOJA species list. Priority sampling locations at MOJA represent areas with a high probability of adding to the park species list and areas of concern to park managers. Thus, searches will be limited to areas identified as priority sampling locations for vascular plants (attached Map). For the MOJA, these areas include the Piute Range, sand dunes, areas over 1300 m, springs, seeps and riparian areas, and areas along the Park boundaries. As stated previously, an area search describes a search of a defined area during which qualified investigators record all species observed and collect evidence of occurrence. The area to be searched is defined as accessible areas within identified priority sampling locations. The defined area will allow the sampling to be repeated during different growing seasons. Investigators will be required to sample within each identified stratum and sampling efforts in each stratum should reflect its frequency within the area of interest. In some cases, rare or sensitive habitats with high associated diversity, such as springs, may be sampled more intensively. Increased sampling intensity will be in the form of increased amount of time spent in an area. Investigators will be asked to keep separate species lists for each cell in the grid where data is recorded to allow integration of information with other park data using park GIS at the scale of the grid cells (Fancy and Sauer 2000). Opportunistic sampling of other areas within the park also may contribute to increasing the number of species documented.

Inventory of Vascular Plants at Manzanar National Historic Site

Little to no information on the occurrence of vascular plant species currently exists for MANZ. A complete area survey will be completed at MANZ.

Targeted Searches

In some cases, unique habitats represent limited, discrete resources such as limestone outcrops. These locations will be targeted for sampling using the existing grid framework. Discrete resources, 'hot spots' and unique habitats will be delineated using GIS and sites to be sampled will be selected randomly. Qualified investigators visiting these sites will record all species observed and collect evidence of occurrence. Multiple site visits will be required to ensure sampling during different growing seasons. If locations are few and small enough it may be possible to conduct exhaustive searches.

Will you be collecting any specimens and removing them from the site?
Yes

If so, what, how many and what will be their disposition?

All previously unvouchered vascular plant taxa will be collected, processed, and deposited into the herbariums at Death Valley NP and the Granite Mountains Desert Research Center.

Taxonomy: Will you use a taxonomic authority or field guide for identification? If so, what is the reference?

The Jepson Manual of Higher Plants of California, OR, the most recent updated taxonomy accepted by the taxonomic authority.

Exclusion: Will you exclude anything from your data collection? (*i.e.* stems less than a certain diameter or streams without surface flow)

In most cases, whole plants will be collected. Where not feasible, only diagnostic material will be retained.

Results:

Use: How will the collected data be used?

Master lists of species for each park unit will be updated. Information on location of vouchers, and additional information on sensitive species, will be maintained in databases.

Publishing: Will the data set (or resulting analysis) be published or part of a larger publication? If so, what will the reference be

Final Report for this contract

Summary: How do you plan to summarize your data?

Master lists of species for each park unit - NPSpecies database.

Models: Will you use a model or other analytical tool to develop your dataset? If so, what is the reference?

Not anticipated

If the model or tool is available include a contact and/or URL

Restrictions: Are there legal restrictions on who may use the data?

None anticipated

Data Management:

1. Owner: Who will be the originator(s)/ owner of the data collected during the project? (Include address and telephone number)

Jim Andre

a) If someone else will collect data, please list the name(s), address, and telephone number.

Jason Sexton, PO Box 101, Kelso CA, 92309, (760) 733-4222

b) Are there other organizations or individuals who should get credit for support, funding, or data collection and analysis? Glenn Clifton, Frank Smith, Valerie Soza.

c) Form: What will be the form of your data set? - (Excel spreadsheet, ArcView GIS layer) Why this form?

d) Filename: What will be the filename for your data set? Excel: "Mastersplist"; ArcView: "Voucherlocations"

Fields: For each file or table, list the fields in the data set and for each field list:

a) The definition of the field ***TBA not yet developed***

b) If the data will be coded, list the codes and the definitions ***TBA not yet developed***

c) If the codes come from a published code set, list the reference. ***TBA.***

d) If the data are measured, list the units and the minimum and maximum allowable values ("no limit" is acceptable). ***TBA***

e) Otherwise, the domain is unrepresentable. Include a brief description of what is in the field. ***TBA not yet developed***

f) Collection sheets: Please attach a copy of all draft data collection sheets. ***TBA not yet developed***

Updates: Will the data set be updated? If so, how frequently?
monthly

Archive: Where will your data set be archived (short-term and permanent)?
Short-term: ***Granite Mountains Desert Research Center***
Long-term: ***NPS***

Keywords: List some keywords to help search for this data set? ***vascular plant, Manzanar, Mojave National Preserve, voucher, taxa, rare.***
If a controlled vocabulary was used, what is the reference? ***TBA***

Advice: Do you have any advice for potential users of the data set? ***This form should be updated after first year of field surveys.***

Distribution: What are your distribution instructions, if any? ***TBA***

GIS Data: Will this be a GIS data set? If no, skip to next question.

- Where will the data be accessed? *NPSpecies, other TBA*
- What are the projection parameters? *TBA, none specified at this time*
- List any source data sets you expect to use. For each source list:
 - Source name, originator and publication date *TBA*
 - Source time period and scale *TBA*
 - Source presentation form and media type *TBA*
 - Contribution of source to your analysis *TBA*
- List the processing steps you will use to create your data set, including the approximate date of processing.

1) develop datasheet and spreadsheet late winter of 2003. 2) collection of data during spring and summer of 2003, 2004. 3) summarize data fall of 2003, 2004 4) Annual Report fall winter of 2003, 2004

Quality Assurance:

MQO's: What are your measurement quality objectives for each parameter of measurement? (If these are included with the methods, simply refer to the methods section) *N/A*

Training: What is your plan for training and certifying data collection staff?

All staff already trained in collection protocols. Field training on use of datasheets will be conducted beginning April 2003.

Audits: When do you plan to audit your field crews? If available, attach field audit form.

Summer of 2003, and again in summer of 2004

Data Checking: What measures will you take to make certain that your data set is as nearly correct as possible? (i.e.- data review, verification, validation)?

All vouchers will be checked by 3 qualified botanists to assure accurate identification. Problem taxa will be sent to the authority of that group for verification.

Quality Assessment: How do you plan to assess the quality of your measurements?

All data will be reviewed by the Principal Investigator to assure records are robust and of highest quality

Budget:

Attach a draft budget for the project.

Labor Hours		Task 1	Task 2		Task 3 Total
J. André	@ \$40/hr	30	120	50	\$ 8,000
F. Smith	@ \$40/hr		80		\$ 3,200
G. Clifton	@ \$35/hr		120		\$ 4,200
V. Soza	@ \$25/hr		120		\$ 3,000
J. Sexton	@ \$25/hr	10	40	30	\$ 2,000
Interns	@ \$10/hr		100		\$ 1,000
Total Labor		40	580	80	\$21,400

Other Direct Costs**All Tasks**

*Smith/Clifton RT Travel to MNP:	\$1200
**Lodging:	\$ 300
Mileage @ \$0.40/mile:	\$2400
***Curation/Equipment	\$ 400
Office supplies/postage:	\$ 300
Total ODCs:	\$4,600.00

* A total of 2 RT to MNP during spring and fall for each botanist, daily travel time to MNP (field) from GMDRC provided without charge

** A portion of lodging and field supply costs donated by UC Sweeney Granite Mtn. Desert Research Center (SGMDRC)

*** Majority of curation costs and herbarium facilities will be waived by SGMDRC

Total Labor: **\$21,400**

Total ODCs: **\$4,600**

TOTAL BUDGET: ***\$26,000.00***